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ABSTRACT

The paper describes the development of a quantifiable problem behavior scale which was field tested with mentally retarded institutionalized persons. Fourteen staff members rated Ss on 42 problem behaviors which were weighted according to degree of disruptiveness. Summing of the item scores is explained to produce a total score which can be used to compare Ss and to predict entry and success in habilitative programs. (CI)

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PROBLEM BEHAVIOR RATING SCALE

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ABSTRACT

Despite the importance of problem behaviors as a determining educational, vocational, and community placement, there are no standardized methods to quantify problem behavior currently available to the therapist. This paper presents the development of a quantifiable problem behavior scale. Each behavior in the scale was assigned a relative weight to indicate its degree of disruptiveness. When this numerical weight is multiplied by the behavior's weekly frequency, the resulting item scores can be used to set treatment priorities for the individual client. When the item scores are summed a single total score can be used to compare many problem individuals to one another and to predict entry into, and success in, habilitative programs.

Mental age and social age have, for many years, been used to describe the mentally retarded. Both of these constructs have desirable characteristics. Each is readily quantifiable. Consequently, habilitative progress can be measured and success in future programs can be predicted. Furthermore, the instruments that measure mental and social ages identify a client's deficits in cognitive skills and adaptive behavior, respectively, and this information can be used to set treatment priorities. Yet, despite these qualities mental age and social age are often unsatisfactory as sole components of a mentally retarded individuals diagnosis. It is increasingly noticeable that other factors exist which influence treatment decisions. For example, the display of problem behaviors by a retardate may necessitate specific treatment interventions while precluding others. In fact, the presence of problem behaviors is usually sufficient cause for preventing a retarded person from living in the community, regardless of the individual's cognitive skill and level of adaptive behavior.

To date, however, the subject of problem behaviors has not received the analytical attention that intelligence and adaptive behavior have. Despite their observability and measurability, there are no techniques in the literature to satisfactorily quantify problem behaviors. Many behavior scales (i.e., Doll, 1965) ignore the subject all together while other scales merely note the presence or absence of undesirable behaviors.¹ Without a method to quantify problem behaviors, there is no objective system to get treatment priorities among several problem behaviors nor to predict if specific problem behaviors will affect treatment planning. The quantification of problem behaviors is the topic of this paper.

A problem behavior scale will be developed that will be able to assign a numerical score to each problem behavior, based on its type and frequency.

In preparing the scale, a technique will be devised to assign a severity weight to each behavior. This number, when multiplied by the behavior's frequency, will yield an item score for that behavior. Uses of these numerical scores will be proposed. Validity of the scale will be established by comparing the above statistical ranking of the problem behaviors with ranking derived from individuals who will intuitively rate the same problem behaviors in a card sort task. It is proposed that the two ranking techniques will yield a correlation that exceeds 0.80.

METHOD

Checklist

A list of 70 problem behaviors and adjectives describing undesirable behaviors was compiled, drawing in part, from such lists as described by Achenbach (1966) and Miller (1967). Ward staff at a New York State residential site for the mentally retarded were instructed to use the checklist to record the type and frequency of client's problems. Over a five month period, approximately 40 checklists were completed on both children and adults who functioned at all levels of retardation, with and without a multiplicity of physical problems. Following this trial use of the checklist, those items that were subject to varying interpretation and those that were seldom or never used were dropped from the list. This decision reduced the problem list to 42 items.

Severity Ratings

The severity of a problem behavior was defined in terms of its consequences. Ten probable consequences of problem behaviors are listed in Table 1. These consequences were printed on individual index cards and distributed to ten professional and direct care staff. Each individual was asked to select what he judged to be the three most likely consequences

of (any) problem behavior. Based on the collective judgments, the relative weights of importance for each consequence was calculated. The results are included in Table 1.

* * * * *

Insert Table 1 About Here

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Rating Technique

Fourteen professional and direct care staff were asked to rate the extent to which each of the consequences (described above) was likely to follow each of the 42 problem behaviors. For any of the consequences from "0" (not at all) to "4" (very much). These ratings were multiplied by the relative weight of each severity characteristic (preceeding paragraph) and composite scores were summed for each behavior for each rater. From this data, the problem behaviors were ranked according to their severity and relative weights were assigned to them. (Table 2A).

* * * * *

Insert Table 2 About Here

* * * * *

Card Sort Technique

Following the rating technique described above, the 14 staff members were presented with 42 index cards, one with each of the 42 problem behaviors written on it. They were asked to arrange the cards according the seriousness of the problem behaviors, from the most disruptive to the least. From this, an average rank ordering of the behaviors along with their relative weights was calculated and is presented in Table 2B.

Comparison of Rankings

It was hypothesized, of course, that the two ranking techniques would yield similar results. In order for the objective rating technique to be valid, it would have to closely match that which individuals perceive the ranking to be. This perceived ranking is precisely what the card sort technique yielded. The correlation between the relative weights as determined by the two rating techniques (Table 2) was 0.96.

Intended Uses of the Problem Behavior Scale

Most of the problem behaviors in Table 2 can be quantified by a simple frequency count. For example, the client's problem behaviors will be recorded as weekly frequencies. A "2" would indicate that the behavior occurs twice a week, and " $\frac{1}{2}$ " that the behavior occurs once every two weeks. Each frequency will be multiplied by the relative weight associated with the problem behavior. This procedure will yield 42 item scores for each client which can be summed to one total score.

Item score could be used to set treatment priorities for the individual. For example, stomping one's feet three times each week will yield a lower score ($3 \times .132$) than eating inedibles once (.432). Thus, although stomping occurs more frequently, it would be the inappropriate eating that will more likely receive habilitative attention. Item scores can also be used to identify those individual problem behaviors that will predict success in specific treatment programs, such as toilet training (Grosek, 1978).

Total scores can be used in several ways. Individuals may be compared to other residents on the ward. Those who receive a higher total score will be rated a higher treatment priority, especially when staff time must be allocated sparingly. Another use of the total score would be to predict an individual chance for success in educational, vocational, and

and community programs. Finally, the instrument, along with its components, can serve as an evaluative tool to measure the improvement, or lack of it, in a client's behavior over a time.

The behaviors in Table 2 which are asterisked can be quantified, not as frequencies, but as percentages of the time that they occur. These items will be multiplied by their relative weights and used in the same ways as the frequency count items described earlier. Frequency item scores and percentage item scores may not be compared to each other.

Qualification of the Scale

Some behaviors, such as fire setting and assaultiveness, have such serious and unacceptable consequences that they will receive greatest habilitative attention, regardless of the score relative to other problem behaviors. To accomodate this circumstance, problem behaviors can be arranged into priority groupings. For example, if a problem behavior exists in Group I, it will receive treatment consideration over problem behaviors in Groups II, III, etc., which would be lower in priority. Within any group, the treatment team would use the highest item scores to set treatment priority. Referring to Table 3, assaultiveness and destructiveness (Group I behavior) will receive treatment before bullying, which is a Group II behavior, even though the latter has a higher item score. Within Group I, destructiveness will receive treatment consideration before assaultiveness, and in Group II, the treatment of bullying will supercede that of vomiting.

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Insert Table 3 About Here

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Infrequent behaviors may preclude treatment by the clinical team. A problem behavior that occurs once a year (whose frequency is thus $1/52$) would yield a very low item score, regardless of the severity rating for that behavior. Even if it were the only problem behavior that the client exhibits, the treatment team may decide that the behavior is not sufficiently disruptive to warrant intervention. The treatment team may require that a problem behavior a) occur "x" times each week, b) occur at least once in the past "y" months, or c) receive a composite item score that exceeds "z" before the behavior receives treatment consideration. Such cut-off criteria can be determined with increased use of the scale.

Summary

The technique of creating a problem behavior checklist where each item was statistically assigned a relative weight of severity was described. The paper proposes ways that the instrument can be used to set treatment priorities for individuals who have several problem behaviors, and for wards which have several problem individuals. In addition, the checklist will be used to explore an individual's success in specific treatment programs in such generic areas as education, vocation, and community living. Since the instrument quantifies the occurrence of problem behavior, it can also be used to evaluate a client's progress or regression in training programs designed to eliminate these behaviors.

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Footnote

- ¹ The Adaptive Behavior Scale (Nihira, 1974) attempts to quantify problem behaviors, but relies on the unsuitable verbiage of "occasionally-frequently" to describe the frequency of the behaviors.

Table 1

Adjective phrases and their relative weights of importance in assessing the severity of problem behaviors:

<u>Adjective Phrase ,</u>	<u>Weight</u>
1. Harmful to self	0.85
2. Harmful to others	1.00
3. Results in property damage	0.33
4. Infringes upon rights of others	0.34
5. Socially unpleasant	0.09
6. Interfers with education/vocation	0.01
7. Interfers with community placement	0.09
8. Consumes staff time	0.01
9. Requires treatment plan	0.09
10. Results in negative attitude in staff toward client	0.01

Table 2

Problem behaviors ranked and weighed by two techniques:

<u>A. Rating Method</u>		<u>B. Card Sort Method</u>	
<u>Rank</u>	<u>Weight</u>	<u>Rank</u>	<u>Weight</u>
1. Fire setting	1.000	2	.922
2. Assaultive	.800	1	1.000
3. Destructive	.671	4	.872
4. Bullies others	.567	10	.718
5. Self-injurious behavior	.524	3	.897
6. Vomiting deliberately	.505	5	.807
7. Smears feces	.493	7	.756
8. Threatens bodily harm	.467	11	.718
9. Steals	.463	12	.705
10. Teases, provokes others	.441	17	.679
11. Eats inedibles	.432	8	.743
12. Lies, cheats	.403	20	.640
13. Steals food at meals	.394	19	.666
14. *Ruminates food	.392	9	.731
15. Rectal probing	.388	6	.756
16. Disobedient	.353	15	.679
17. Floods toilets	.343	22	.628
18. Soils with urine	.332	14	.692
19. Touches others inappropriately	.330	21	.640
20. Exposes self in public	.327	13	.692
21. Runs away, wanders	.327	18	.666
22. Screaming	.290	24	.603
23. Masturbates in public	.286	16	.679

24. *Hyperventilates	.260	26	.577
25. Feigns seizures	.251	25	.577
26. *Attention demanding	.219	23	.615
27. Breath holding	.213	29	.525
28. Hoards objects	.210	39	.449
29. Hypochondria	.207	36	.474
30. *Grinds teeth	.195	34	.487
31. Delusioned speech	.173	27	.564
32. *Refuses to talk	.163	31	.512
33. *Drooling	.162	30	.512
34. *Speaks in a loud voice	.148	41	.423
35. *Self-stimulatory behavior	.144	28	.564
36. *Ritualistic behavior	.142	38	.462
37. Crying	.132	33	.499
38. Stomps feet in anger	.132	32	.512
39. Repeats words or phrases	.101	37	.462
40. *Paces	.101	42	.248
41. *Echolalia	.097	35	.474
42. *Body rocking	.069	40	.423

*See text

Table 3

Hypothetical data illustrating use of group problem behaviors:

<u>Group</u>	<u>Behavior</u>	<u>Weight</u>	<u>Weekly Frequency</u>	<u>Score</u>
I	Fire setting	1.000	0	0
	Assaultive	.800	1	.800
	Destructive	.671	2	1.342
II	Bullies others	.524	3	1.572
	Self-injurious	.505	0	0
	Vomiting deliberately	.493	2	.986